

## CLAIMS

1. A pre-scan assembly for a laser scanning unit including a printhead housing and having a scanning element for scanning a light beam, and a laser light source emitting at least one light beam along a laser beam axis extending toward said scanning element, said pre-scan assembly comprising:

a pre-scan lens assembly including a carrier, and a pre-scan lens supported in said carrier and defining a lens optical axis;

a pre-scan mount associated with said housing and located between said light source and said scanning element;

at least one angular alignment datum surface defined in said pre-scan mount and extending generally parallel to said laser beam axis;

said carrier including at least one carrier alignment surface cooperating with said at least one angular alignment datum surface, whereby said lens optical axis is generally aligned relative to said laser beam axis.

2. The pre-scan assembly of claim 1 wherein said at least one carrier alignment surface is movable in a direction transverse to said at least one laser beam axis to locate said at least one carrier alignment surface in engagement with said at least one angular alignment surface.

3. The pre-scan assembly of claim 2 wherein said pre-scan mount includes at least one support surface and said carrier includes at least one wing member extending transverse to said at least one alignment surface and engaged on said at least one support surface.

4. The pre-scan assembly of claim 2 wherein said at least one carrier alignment surface is movable relative to said at least one angular alignment datum surface in a direction parallel to said laser beam axis.

5. The pre-scan assembly of claim 2 wherein said pre-scan lens is movable relative to said carrier in said direction transverse to said laser beam axis.

6. The pre-scan assembly of claim 5 wherein said pre-scan mount includes at least one second alignment datum surface, said pre-scan lens including an upper and a lower surface, and said lower surface of said pre-scan lens engaging said second alignment datum surface to position said pre-scan lens at a predetermined location relative to said laser beam axis.
7. The pre-scan assembly of claim 6 wherein said carrier includes an upper resilient member engaging said upper surface of said pre-scan lens to bias said pre-scan lens onto said second alignment datum surface.
8. The pre-scan assembly of claim 1 wherein said pre-scan lens includes opposing front and rear faces, said carrier includes an inner surface and a resilient retention structure located in spaced relation from said carrier inner surface, said retention structure engaging said rear face of said pre-scan lens to bias said front face of said pre-scan lens into engagement with said inner surface to retain said pre-scan lens in said carrier.
9. A pre-scan assembly for a laser scanning unit including a printhead housing and having a scanning element for scanning a light beam, and a laser light source emitting at least one light beam along a laser beam axis extending toward said scanning element, said pre-scan assembly comprising:
  - a pre-scan lens assembly including a carrier, and a pre-scan lens supported in said carrier and defining a lens optical axis;
  - a pre-scan mount associated with said housing and located between said light source and said scanning element;
  - a pair of angular alignment datum surfaces defined in said pre-scan mount and extending generally parallel to said laser beam axis;
  - said carrier including a pair of carrier alignment surfaces cooperating with said angular alignment datum surfaces, whereby said lens optical axis is generally aligned relative to said laser beam axis.
10. The pre-scan assembly of claim 9 wherein said pre-scan mount includes a support surface

associated with each of said angular alignment datum surfaces and said carrier includes opposing sides, at least a portion of said carrier sides defining said carrier alignment surfaces, and a wing member extending from each said carrier side transverse to said alignment surfaces, each said wing member engaged on one of support surfaces.

11. The pre-scan assembly of claim 10 including fasteners biasing said wing members toward said support surfaces.

12. The pre-scan assembly of claim 11 wherein said wing members each include a slot portion, elongated in a direction parallel to said laser beam axis, for receiving a respective fastener, whereby said carrier is movable along said support surfaces.

13. The pre-scan assembly of claim 10 wherein said carrier comprises a flexible central structure joining said opposing sides whereby said carrier alignment surfaces are movable relative to one another.

14. The pre-scan assembly of claim 9 wherein said pre-scan lens is movable relative to said carrier in a direction transverse to said laser beam axis.

15. The pre-scan assembly of claim 14 wherein said pre-scan mount includes a second alignment datum surface and said pre-scan lens includes upper and a lower surfaces, said lower surface of said pre-scan lens engaging said second alignment datum surface to locate said pre-scan lens in a direction transverse to said laser beam axis.

16. The pre-scan assembly of claim 15 wherein said carrier includes an upper resilient member engaging said upper surface of said pre-scan lens to bias said pre-scan lens onto said second alignment datum surface.

17. The pre-scan assembly of claim 14 wherein said pre-scan lens includes opposing front and rear faces, said carrier includes an inner surface and a resilient retention structure located in

spaced relation from said carrier inner surface, said retention structure engaging said rear face of said pre-scan lens to bias said front face of said pre-scan lens into engagement with said inner surface to retain said pre-scan lens in said carrier.

18. In a laser scanning unit comprising a scanning element for scanning a light beam, a laser light source emitting at least one light beam along a laser beam axis and a collimation assembly for receiving and substantially collimating said light beam, a pre-scan assembly comprising:

a pre-scan lens assembly including a carrier, and a pre-scan lens supported in said carrier and defining a lens optical axis;

a pre-scan mount located adjacent said collimation assembly;

a pair of angular alignment datum surfaces defined in said pre-scan mount and extending generally parallel to said laser beam axis;

said carrier including a pair of carrier alignment surfaces cooperating with said angular alignment datum surfaces, whereby said lens optical axis is generally aligned in a scanning direction.

19. The apparatus of claim 18 wherein said pre-scan mount includes a support surface associated with each of said angular alignment datum surfaces and said carrier includes opposing sides, at least a portion of said carrier sides defining said carrier alignment surfaces, and a wing member extending from each said carrier side transverse to said carrier alignment surfaces, each said wing member engaged on one of support surfaces.

20. The pre-scan assembly of claim 19 including fasteners biasing said wing members toward said support surfaces.

21. The pre-scan assembly of claim 20 wherein said wing members each include a slot portion for receiving a respective fastener, whereby said carrier is movable along said support surfaces in a process direction.

22. The pre-scan assembly of claim 18 including a second light beam emitted by said laser

light source, and said collimation assembly substantially collimating said second light beam, said pre-scan lens causing said light beams to converge to substantially the same location on said scanning element.